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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/846,777	05/01/2001	Robert F. Zepf	USFFIL.097A	4606
20995	7590	07/02/2004	EXAMINER	
KNOBBE MARTENS OLSON & BEAR LLP			MENON, KRISHNAN S	
2040 MAIN STREET			ART UNIT	
FOURTEENTH FLOOR			PAPER NUMBER	
IRVINE, CA 92614			1723	

DATE MAILED: 07/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/846,777

Applicant(s)

ZEPF, ROBERT F.

Examiner

Krishnan S Menon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-19 and 69-72 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 and 69-72 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

Claims 1-19 and 69-72 are pending.

#### ***Double Patenting***

Claims 69-72 are objected to under 37 CFR 1.75 as being a substantial duplicate of claims 2-5. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k). In this instance, claim 1 describes a symmetrical membrane having same pore sizes (30 microns) on both the first and the second surfaces. Claims 2-5 further defines the pore sizes of the first surface. Claim 69-72 further defines the pore sizes of the second surface. Since claim 1 recites a symmetrical membrane, the identity between the first and second surfaces are lost, and therefore, a membrane having first surface of 30 microns diameter pores and second surface having 60 microns diameter would be identical to another membrane having first surface of 60 microns dia pores and second surface of 30 microns dia pores, as long as there are no other features differentiating the two surfaces.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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Claims 1-5, 8, 14, 16 -19 and 69-72 rejected under 35 U.S.C. 102(b) as being anticipated by, or in the alternative, under 35 USC 103(a) as being unpatentable over Kinn et al (US 4,973,382).

Kinn teaches a polymer mesh (abstract) comprising a first and second surface having pores >30 microns (col 2 lines 27-31) with support structure having reticulated network of flow channels (col 3 lines 45-53) as in claim 1. Pore dia of the first (or the second) surface about 60 microns, or from 50-200, or 60-150, or 70 – 100 microns as in claims 2-5 (or claims 69-72). Membrane thickness > 50 microns as in claim 8 (table I), polymer is polyester or acrylic as in claim 14 and has hydrophilic components as in claims 16 and 17 (col 3 lines 30-35, col 5 lines 40-47); ratio of polymer to hydrophilic is in the range of claims 18 and 19 – see example 1 and table II. The newly added limitation of “**cast**” is a process step of making the membrane. “[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.” In re *Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). Claims 69-72 are substantial duplicates of claims 2-5 and therefore, are rejected in the same way as claims 2-5.

***Claim Rejections - 35 USC § 103***

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 6,7 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kinn et al (US 4,973,382) in view of Wang et. al.(US 6,146,747).

Kinn teaches all the limitations of claim 1. Wang (747) teaches the further added limitations of the instant claims as follows:

Wang (747) teaches a polymer membrane mesh **made by casting** (applicant uses 'mesh' to mean a coagulated structure with reticular network of flow channels; ref: specification page 2 last para to page 3 first para) comprising a surface with minimum pores and opposite surface with maximum pores, with a porous support in between the two surfaces (col 6: 10-30) and with first surface having pores of 0.1-3 microns and second surface having pores of 50 to 1500 microns (col 6 lines 11-30). Wang (747) teaches bubble point as in claim 6, water permeabilities as in claim 7: the membrane has a bubble point about 0.5 psi or more (col 6: 25-30) and water permeabilities in the range of 30,000 ml/min for a 90 mm dia disc at 10 psi pressure (col 7: 30-38). It would be obvious to one of ordinary skill in the art at the time of invention that since the bubble point is less than 1 psi and water permeabilities greater than 30,000 ml/min of membranes with first surface pore diameter 3 microns or less, membranes with first surface pore size >30 microns would inherently exhibit even lower bubble points and higher water permeabilities than the membrane with 3 micron pore diameter. Re claim

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15, polyolefins would be considered as an obvious equivalent of the materials listed in claim 14, unless applicant can prove otherwise. Wang (747) teaches polyolefins in col 14 lines 24-36. It would be obvious to one of ordinary skill in the art at the time of invention to use the teaching of Wang (747) in the teaching of Kinn to improve strength as taught by Wang (747)

2. Claims 9-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kinn et al (US 4,973,382) in view of Wang (US 5,869,174).

Kinn teaches all the limitations of claim 1. Instant claims add further limitations, which are not taught by Kinn. Wang (174) teaches an asymmetric membrane (abstract, col 4 lines 46-64) and how to obtain larger pore diameters on the first surface by controlling the process parameters such as the time of exposure of the cast film to air (longer exposure produces larger pores), temperature of the quench bath (warmer quench bath produces larger pores), etc., in col 5 line 11 – col 6 line 58. Thickness of 75-200 microns as in claims 9-11 (See col 6 lines 39-50). Membranes are made from polysulfones as in claims 12 and 13 (abstract). It would be obvious to one of ordinary skill in the art at the time of invention to use the teaching of Wang (174) in the teaching of Kinn (382) to make filter membranes for use as pre-filters etc in food, pharmaceutical or biotechnology applications, for chemical and high temperature stability, etc., as taught by Wang (174) (col 2 line 47 – col 3 line 40), for removal of contaminants, by surface and depth filtration as taught by Kinn (col 5 lines 48-62).

### ***Response to Arguments***

Applicant's arguments filed 6/4/04 have been fully considered but they are not persuasive.

In response to the arguments re the 102(b) rejection based on Kinn ref, "cast" is a process part as discussed in the rejection. Arguments about integral and dissimilar fiber components are material not in commensurate with the scope of the claims. Claim reads a membrane mesh, which gives credence to fibrous structure. Wet-laid process is 'casting' a slurry of the fibrous material on to a web. Applicants will have to prove that the cast membrane has different structure, and claim such structure, if applicants believes that their membrane is different.

Arguments re the 103 (a) rejections are moot because of the new grounds for rejection brought about by applicants' amendments.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Krishnan S Menon whose telephone number is 571-272-1143. The examiner can normally be reached on 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L Walker can be reached on 571-272-1151. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Krishnan Menon  
Patent Examiner

  
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